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Remarks

Thorough examination by the Examiner is noted and appreciated.

The claims have been further amended to overcome Examiners 112 rejections and to further clarify Applicants invention.

No new matter has been added.

Support for the amended and new claims is found in the previously and originally presented claims, the Figures (including Figures 1, 1A, and 2) and the Specification including at:

[0030] Referring to FIG. 1, an electrochemical plating (ECP) system 10 suitable for implementation of the present invention includes a standard electroplating cell having an adjustable current source 12, a bath container 14, a copper anode 16 and a cathode 18, which cathode 18 is the semiconductor wafer substrate that is to be electroplated with copper. The anode 16 and cathode/substrate 18 are connected to the current source 12 by means of suitable wiring 38. The bath container 14 holds a bath 20 typically of acid copper sulfate solution which may include an additive for filling of submicron features and leveling the surface of the copper electroplated on the substrate 18.

[0035] As shown in FIG. 1A and indicated in step S4 of FIG. 2, the cathode/substrate 18 is immersed in the bath solution 20 by passing the substrate 18 through the composition suspension layer 26. As shown in FIG. 1A, the seed layer 19 on the substrate 18 contacts the composition suspension layer 26 and causes a wetting layer 26a to break off of the composition suspension layer 26 and

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adhere to the surface of the seed layer 19. This wetting layer 26a remains on the seed layer 19 during the subsequent electroplating process. It will be appreciated by those skilled in the art that the wetting layer 26a promotes wetting of the ECP electrolyte bath solution 20 to the seed layer 19 during the electroplating process.

Claim Rejections under 35 USC 112

1. Claims 1-2, 4-7, 9, 12-13 and 21-24 stand rejected under 35 U.S.C. first paragraph as failing to comply with the written description requirement.

Examiner asserts that Applicants disclosure does not disclose:

"wherein said composition is disposed as a suspended layer within said electrolyte solution, **adapted to** form a wetting layer on a substrate as said substrate is passed through said suspended layer, said electrolyte bath **adapted to** form said wetting layer on said substrate prior to an electroplating process in said electrolyte solution "

Examiner argues that the term "adapted is not disclosed since Applicants does not disclose **what is meant by "adapted"** or

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provide how one would have carried this out.

It is noted that Applicants are not required to provide definitions of commonly used terms. It is noted that Examiner has not made a 112, second paragraph rejection. It is further noted Examiner has not made a 112, first paragraph rejection alleging that undue experimentation would be required to practice Applicants invention.

Examiner argues there is **no literal support** in the specification for the newly added limitations (Examiner is presumably referring to the term "adapted").

Examiner provides no support in the MPEP or case law that Applicants claim language requires literal support or that there is an *in haec verba* requirement.

Applicants reproduce what has previously been pointed out to Examiner as support for Applicants amended claims.

[0034] As indicated in step S2 of FIG. 2, the **electrochemical plating (ECP) electrolyte bath solution 20 is prepared in the bath container 14. Next, as indicated in step S3, the organic composition mixture of the present invention is prepared and then suspended as a composition suspension layer 26 in the bath solution 20. The anode 16 and substrate 18 are then immersed in**

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the bath solution 20 and connected to the adjustable current source 12 typically through wiring 38.

[0035] As shown in FIG. 1A and indicated in step S4 of FIG. 2, the cathode/substrate 18 is immersed in the bath solution 20 by passing the substrate 18 through the composition suspension layer 26. As shown in FIG. 1A, the seed layer 19 on the substrate 18 contacts the composition suspension layer 26 and causes a wetting layer 26a to break off of the composition suspension layer 26 and adhere to the surface of the seed layer 19. This wetting layer 26a remains on the seed layer 19 during the subsequent electroplating process. It will be appreciated by those skilled in the art that the wetting layer 26a promotes wetting of the ECP electrolyte bath solution 20 to the seed layer 19 during the electroplating process.

Examiner does not explain how or why one of ordinary skill would not understand or appreciate that Applicants had possession of their invention as claimed.

Applicants respectfully refer Examiner to the following relevant portions of the MPEP and the case law:

ADEQUACY OF WRITTEN DESCRIPTION

A. Read and Analyze the Specification for Compliance with 35 U.S.C. 112, para. 1

Office personnel should adhere to the following procedures when reviewing patent applications for compliance with the written description requirement of 35 U.S.C. 112, para. 1. The examiner has the initial burden, after a thorough reading and evaluation of the content of the application, of presenting evidence or reasons why a person skilled in the art would not recognize that the written description of the invention provides support for the claims. There is a strong presumption that an adequate written description of the claimed invention is present in the specification as filed, *Wertheim*, 541 F.2d at 262, 191 USPQ;

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however, with respect to newly added or claims, applicant should show support in the disclosure for the new or amended claims.

"[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968)

It is now well accepted that a satisfactory description may be in the claims or any other portion of the originally filed specification.

See MPEP, 8th Ed, Section 2163 (I)

While there is **no *in haec verba* requirement**, newly added claim limitations must be supported in the specification through **express, implicit, or inherent disclosure**.

See MPEP, 8th Ed, Section 2163 (I) (B)

The fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. See, e.g., *Vas-Cath, Inc.*, 935 F.2d at 1563-64, 19 USPQ2d at 1117.

Possession may be shown in many ways. For example, possession may be shown by describing an actual reduction to practice of the claimed invention. Possession may also be shown by a **clear depiction of the invention in detailed drawings** or in structural chemical formulas which permit a person skilled in the art to clearly recognize that applicant had possession of the claimed invention. An adequate written description

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of the invention may be shown by any description of sufficient, relevant, identifying characteristics so long as a person skilled in the art would recognize that the inventor had possession of the claimed invention. See, e.g., *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1323, 56 USPQ2d 1481, 1483 (Fed. Cir. 2000)

see also 2173.05(g):

In a claim that was directed to a kit of component parts capable of being assembled, the Court held that limitations such as "members **adapted** to be positioned" and "portions . . . being resiliently dilatable whereby said housing may be slidably positioned" **serve to precisely define present structural attributes** of interrelated component parts of the claimed assembly. *In re Venezia*, 530 F.2d 956, 189 USPQ 149 (CCPA 1976).

Thus, while Examiner has not made out a prima facie case that Applicants claim language including the use of the terms "adapted to" violates the written description requirement, Applicants have nevertheless amended their claims in an effort to further prosecution on the merits.

Claim Rejections under 35 USC 102/103

2. Claims 1-2, 5-6, and 9 stand rejected under 35 USC Section 102(b) as anticipated by, or in the alternative as obvious over

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Meine et al. (US 6,689,223).

Meine et al., in non-analogous art (**not in the same field of endeavor i.e., electroplating of metal**), discloses:

"A method of cleaning hard surfaces by contact with an aqueous, liquid, multiphase, surfactant-containing cleaning composition having at least two continuous phases, one lower aqueous phase I and an upper aqueous phase II immiscible with the lower phase I, which can be temporarily converted into an emulsion by shaking and which cleaning composition contains no more than 50% by weight of nonionic surfactants, based on the total quantity of surfactants present." (see Abstract)

Examiner erroneously asserts that the disclosure of Meine et al. in connection with **a cleaning composition** that has **no more than 50% by weight of nonionic surfactants** based on the total quantity of surfactants including C12-C14 fatty alcohol + 1PO (propylene oxide)+1EO (ethylene oxide) ether or C10-C14 fatty alcohol +9EO butyl ether (see col 2, lines 16-30), discloses the elements of Applicants claim:

"a non-ionic polymer mixed with said organic acid, said non-ionic polymer selected from the group consisting of an alkoxyated alcohol, an alkoxyated amine, and an alkylphenol alkoxyate;"

Examiner has not established that the modified fatty

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alcohols (including ethylene and propylene oxide) of Meine et al. is equivalent to any one of Applicants non-ionic polymers, but even assuming *arguendo*, such is the case, such a fact does not help Examiner in attempting to modify **non-analogous** art to achieve Applicant invention while ignoring the structural elements of Applicants claims.

Examiner argues without support that "**the ether** disclosed by Meine **would have been an alkoxyated alcohol.**"

Examiner then apparently argues that she may shift the burden of proving that Meine et al. does not disclose an alkoxyated alcohol to Applicants since "the examiner cannot determine where or not the reference inherently possess properties which anticipate or render obvious the claimed invention but has a basis for shifting the burden of proof to Applicant" citing *In re Fitzgerald* 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP 2112-2112.02.

Examiner is misguided in attempting to shift any burden of proof to Applicants:

**ONCE A REFERENCE TEACHING PRODUCT
APPEARING TO BE SUBSTANTIALLY IDENTICAL**

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**IS MADE THE BASIS OF A REJECTION,
AND THE EXAMINER PRESENTS
EVIDENCE OR REASONING TENDING TO
SHOW INHERENCY, THE BURDEN SHIFTS
TO THE APPLICANT TO SHOW AN UNOBVIOUS
DIFFERENCE**

"[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on 'inherency' under 35 U.S.C. 102, on '*prima facie* obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

Examiner has not established any reasonable basis in fact to reasonably support that the modified fatty alcohols (including ethylene and propylene oxide) of Meine et al. are substantially identical, to any one of Applicants non-ionic polymers.

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently

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described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

"The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

"First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Claim Rejections under 35 USC 103

3. Claims 4, 7 and 21-22 stand rejected under 35 USC 103(a) as

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being unpatentable of Meine et al., above.

Applicants reiterate the comments made concerning the non-analogous art of Meine et al., above in disclosing a cleaning composition having at least two continuous phases, one lower aqueous phase I and an upper aqueous phase II immiscible with the lower phase I, which can be temporarily converted into an emulsion by shaking.

Even assuming *arguendo* a proper motivation for modifying the cleaning composition of Meine et al., such modification does not produce Applicants invention.

Examiners argument that varying the various concentrations of the cleaning composition of Meine, in forming one lower aqueous phase I and an upper aqueous phase II immiscible with the lower phase I, in an effort to achieve Applicants invention are result effective variables is likewise misplaced since Meine **does not disclose or suggest the structural elements of Applicants invention.**

"A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or

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workable ranges of said variable might be characterized as routine experimentation." *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

Examiner is further mistaken that the claim language an electrolyte solution suitable for metal electroplating is merely a statement of intended use. Applicants note that Applicants are not required to claim what is old or known, i.e., an electrolyte solution suitable for metal electroplating, **which includes compositional elements making the electrolyte solution suitable for metal electroplating.**

With respect to claim 7, Examiner is further mistaken in arguing that 8 % by weight of citric acid disclosed by Meine at col 2, line 28 is equivalent to Applicants 10 wt%. Examiner has provided no support that one of ordinary skill in the art would consider 8 wt % to be about 10 wt % in the relevant art of electroplating solutions or that one skilled in the art would expect electroplating solutions differing only by the amount of the citric acid solution to have about the same properties. Moreover, Applicants do not claim a range, but a specific amount.

"First, there must be some suggestion or motivation, either

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in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. **Second**, there must be a **reasonable expectation of success**. **Finally**, the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. The teaching or suggestion to make the claimed combination and the reasonable expectation of success **must both be found in the prior art, and not based on applicant's disclosure.**" *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

4. Claims 12-13 and 23-24 stand rejected under 35 USC 103(a) as being unpatentable over *Meine et al.*, above.

Applicants reiterate the comments made concerning the non-analogous art of *Meine et al.*, above in disclosing a cleaning composition having at least two continuous phases, one lower aqueous phase I and an upper aqueous phase II immiscible with the lower phase I, which can be temporarily converted into an emulsion by shaking.

Conclusion

The cited non-analogous art, singly or in combination fail

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to produce or suggest Applicants invention, and therefore fail to make out a *prima facie* case of anticipation or obviousness.

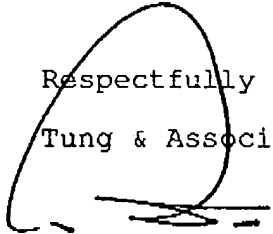
Applicants have further amended their claims to further overcome Examiners rejections in an effort to further prosecution on the merits and further clearly define over the prior art.

Applicants respectfully request favorable reconsideration of their claims and submit that Applicants Claims are now in condition for allowance. Such favorable action by the Examiner at an early date is respectfully solicited.

In the event that the present invention as claimed is not in a condition for allowance for any other reasons, the Examiner is respectfully invited to call the Applicants= representative at his Bloomfield Hills, Michigan office at (248) 540-4040 such that necessary action may be taken to place the application in a condition for allowance.

Respectfully submitted,

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